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10/564,866	07/06/2006	Bruno Jahan	T69.12-0002	5110
27367 7590 07/19/2011 WESTMAN CHAMPLIN & KELLY, P.A. SUITE 1400 900 SECOND AVENUE SOUTH MINNEAPOLIS, MN 55402				
EXAMINER				
SHAI, TANMAY K				
ART UNIT		PAPER NUMBER		
2611				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

1. This communication is in response to the Amendment to Application 10/564,866 filed 6/29/11.

Response to Arguments

2. Applicant's arguments filed 6/29/11 have been fully considered but they are not persuasive.

A. Magee Fails to Disclose Multi-carrier signals

4. Applicant argues that Magee fails to disclose multi carrier signals as recited in claim 15 (Remarks, page 6). Examiner notes that The "Multi carrier signal" is not given any patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recited the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness, but, instead, the process steps or structural limitations are able to stand alone. See *In re Hira*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

B. Magee Fails to disclose correcting pilot tones

5. Applicant argues Magee fails to disclose correcting pilot tones as claimed (Remarks page 6-7).

6. Magee also discloses independently correcting at least one of the pilot, in phase and amplitude, and as a function of said first estimate, to output a corrected pilot with phase and amplitude correction, said correction step including a step to calculate an

amplitude and phase error vector for each of said at least one reference pilot. (The channel estimator may provide additional correction, based on channel responses at the training tones, to the impulse response, such as amplitude and phase correction, Examiner again emphasizes that it is performed for each burst, so the process is being performed independently, as shown in Fig. 4, the process is performed with use of creating offset vector, Although, only phase vector is shown but the description discloses that the additional correction such as amplitude can be performed).

C. Magee Fails to disclose Time/Frequency Interpolation on said Extracted at least one Reference Pilot.

7. Applicant argues that Magee Fails to disclose Time/Frequency Interpolation on said Extracted at least one reference pilot.
8. First, Magee teaches as extracting said at least one reference pilot present in each of said symbols. As shown in Fig. 1 and disclosed in paragraph 23, The channel estimator 20 extracts pilot tones (e.g., training tones) from the frequency domain signal and then performs an IFFT to get the channel impulse response for a data burst. The data burst is a time period which can contain one or more symbols or packets as known in the art.
9. Magee also discloses obtaining first estimate of said propagation channel by time/frequency interpolation on said extracted at least one reference pilot. As described above Magee teaches extracting pilot (so it teaches extracting at least one reference pilot), and also as shown in Fig. 1 and Fig. 2 and Fig. 7 and disclosed in paragraph 23

and paragraph 77, the channel estimator extracts pilot tones from the frequency domain signal and then performs an IFFT to get channel impulse response for a data burst. Then the current impulse response is zero padded at 712 (Fig. 2 and Fig. 7). Frequency domain interpolation is performed at 714 by computing a FFT of the current channel impulse response (paragraph 77). This is the first estimate as claimed (since it is performed using frequency interpolation).

D. Magee Fails to Disclose a Second Estimate of Said Propagation Channel, by Analysis of Said Corrected Pilot.

10. Magee also discloses obtaining second estimate of propagation channel, by analysis of said corrected pilot (As shown in Fig. 3, the corrected response is stored and fed back to compare with the current impulse response, so the Examiner interprets as the second estimate). Examiner further includes even if Examiner agree with the applicant that fed back portion can not considered as the second estimate the as shown in Fig. 1, the output of the channel estimator is fed to a data demodulator 22 and then fed to the data postprocessing which performs error correction utilizing the information provided by the data demodulator 24 in addition to providing block or packet formatting. Examiner believes in order to perform the second correction the data has to be estimated.

II. Rejection Under 103

A. Claim 20.

11. Applicant's arguments regarding claim 20 is persuasive and Claim 20 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

B. Claim 26

12. Applicant's arguments regarding claim 26 is persuasive and Claim 26 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TANMAY SHAH whose telephone number is (571)270-3624. The examiner can normally be reached on Mon-Thu (7:30 - 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TANMAY K SHAH/
Examiner, Art Unit 2611